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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/353,448	07/14/1999	YOSHIO SAKATA	32178-149711	3541

7590 03/25/2004  
Volentine Francos PLLC  
12200 Sunrise Valley Drive Suite 150  
Reston, VA 20191

EXAMINER
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NGUYEN, DUC MINH

ART UNIT	PAPER NUMBER
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2643

DATE MAILED: 03/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/353,448

Applicant(s)

SAKATA ET AL.

Examiner

Duc Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) \_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-13 is/are allowed.
- 6) ☒ Claim(s) 5-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takada et al (6,236,725) in view of Yoshida et al (JP407264279A).

Consider claims 5-6. Takada teaches an echo canceller that eliminates echoes produced in an echo path formed between a loudspeaker (4) that converts receiving signals ( $X(n)$ ) into voice output and a microphone (5) that converts voice input into sending signals, comprising an adaptive filter (10); a subtracter (7), wherein the tap coefficients of the adaptive filter are modified responsive to the part of the receiving signals and a part of the echo canceled sending signal ( $e_1(n)$ ) (see fig. 1, 5-6; step gain generator 18; see the entire abstract; col. 3, ln. 55-65; col. 9, ln. 14-49). Takada does not teach the use of attenuator.

Yoshida teaches an echo canceller for eliminating echoes produced through an echo path formed between a loudspeaker (109 or 111) and microphone (114), comprising an adaptive digital filter (112a); an attenuator (115); and a subtracter (105a). In order for the echo canceller to cancel the unwanted echo signal completely, the pseudo echo signal produced by ADF (112a) must have an amplitude that substantially equals to the amplitude of the signal produced by

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attenuator (115), but 180 degrees out of phase. Fig. 1 clearly shows controller (113) controls both the ADF (112a) and the attenuator/amplifier (115). There is a great possibility and obviously that the controller (113) controls the amplitude of the signal produced by the ATT/AMP (115; noted that the gain of the amp 115 can be reduced (attenuated) or increased (amplified) between different levels, e.g., from a higher level to a lower a level or vice versa; page 4 of 6, paragraphs 30 and 32, detailed description section) to substantially match with the pseudo echo signal produced by ADF (112a), so that echo signal can be canceled completely. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teaching of Yoshida into the teaching of Takada in order to control the amplitude of the signal produced by the ATT/AMP (115) to substantially match with the pseudo echo signal produced by ADF (112a), so that echo signal can be canceled completely.

Consider claim 7. Takada in view of Yoshida does not teach the attenuator is a fixed attenuator. However, Fixed is word of relative meaning; it can have many shades of meaning, from absolutely unchangeable to relatively unchangeable. *Palmer v. McLamore, Minneman & Dunn* (CCPA) 105 USPQ 275. The attenuation (115) can relatively be fixed to a particular attenuation level.

3. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takada et al (6,236,725) in view of Yoshihama et al (JP408279777A).

Consider claims 8-9. Takada teaches an echo canceller that eliminates echoes produced in an echo path formed between a loudspeaker (4) that converts receiving signals (X(n)) into voice output and a microphone (5) that converts voice input into sending signals, comprising an

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adaptive filter (10); a subtracter (7), wherein the tap coefficients of the adaptive filter are modified responsive to the part of the receiving signals and a part of the echo canceled sending signal ( $e_1(n)$ ) (see fig. 1, 5-6; step gain generator 18; see the entire abstract; col. 3, ln. 55-65; col. 9, ln. 14-49). Takada does not teach an amplifier used to amplify the pseudo echo signal so that the amplitude level of the pseudo echo signal is matched to that of the echo noises.

Yoshihama teaches an echo canceller for eliminating echoes produced through an echo path formed between a loudspeaker (connected to line 16, fig. 1)) and microphone (connected to line R), comprising a ringer buffer 12 and an echo estimator 11 that perform the function of an ADF to produce a pseudo echo signal (fig. 1); a subtracter (14); and an amplifier (13) used to amplify the pseudo echo signal so that the amplitude level of the pseudo echo signal is matched to that of the echo noises. In order for the echo canceller to cancel the unwanted echo signal completely, the pseudo echo signal produced by ringer buffer 12 and echo estimator 11 (see fig. 1) must have an amplitude that substantially equals to the amplitude of the echo signal (R), but 180 degrees out of phase. Therefore, there is a great possibility and obviously that the pseudo echo signal produced by the amplifier (13) must substantially match with the echo signal (R), so that echo signal can be canceled completely. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teaching of Yoshihama into the teaching of Takada in order to control the pseudo echo signal produced by the amplifier (13) to substantially match with the echo signal (R), so that echo signal can be canceled completely.

Consider claim 10. Takada in view of Yoshihama does not explicitly teach a fixed amplifier. However, Fixed is word of relative meaning; it can have many shades of meaning,

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from absolutely unchangeable to relatively unchangeable. *Palmer v. McLamore, Minneman & Dunn* (CCPA) 105 USPQ 275. The amplifier (13) can relatively be fixed to a particular amplifier level.

*Allowable Subject Matter*

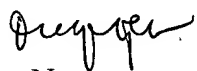
4. Claims 11-13 are allowed.

*Conclusion*

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc Nguyen whose telephone number is 703-308-7527. The examiner can normally be reached on 6:00AM-2:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on 703-305-4708. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Duc Nguyen  
Primary Examiner  
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3/15/04